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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HSU, AMY R

ART UNIT

PAPER NUMBER

2622

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/523,159	<b>Applicant(s)</b> AMANO, RYOUSUKE	
	<b>Examiner</b> AMY HSU	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 1/8/2009 have been fully considered but they are not persuasive. Applicant argues that the prior art does not teach a timing generating means controlling storage and output of a storage means and controlling readout from the image pick-up device as claimed in claims 1 and 4.
2. The Office maintains the rejection of claims 1 and 4 based on the teaching of Suzuki et al. (US 6515703) in view of Okino et al. (US 5019911) and Suzuki further teaches the currently amended limitations which will be in bold text. Note that the language of the currently amended claims is broadly stated and can read on well known features of most digital cameras specifically timing control means for controlling readout after every frame or field from a CCD and subsequent storage of the readout image signal and when this is complete, output from said storage to a monitor. This is interpreted as capturing an image to memory and subsequently outputting the same image on a monitor, and will be addressed in more detail below.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 6515703) in view of Okino et al. (US 5019911).

Regarding Claim 1, Suzuki teaches an image pick-up apparatus comprising: a solid-state image pick-up device for performing photo-electric conversion in accordance with a received image pick-up light (*Fig. 1*);

switching means for performing switching between first mode serving as image pick-up mode where charges stored in the solid-state image pick-up device are read out every n frames to output a CCD output signal and second mode serving as image pick-up mode where charges stored in the solid-state image pick-up device are read out every m fields to add odd charges and even charges which are adjacent in a vertical direction of the charges which have been read out while changing the combination thereof every m fields to output a CCD output signal (*Col 7 Lines 51-55 teaches means to select or switch the frame mode or field mode*);

**storage means for storage of the output CCD output signal from the image pick-up device (reference number 46, buffer memory and Col 13 Lines 29-36 which teaches the output image signal obtained from the CCD is stored in the memory 46);**

timing generating means (*Fig. 1 reference number 2*) for **controlling readout of the output CCD output signals from the image pick-up device and for controlling storage and output of the storage means wherein every frame in the first mode or**

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**at every field in the second mode, during non-readout of the image pick-up device, the storage means outputs a same CCD output signal (*First, Col 11 teaches that still image cameras generally capture one field for one operation of capturing an image. Col 13 Lines 48-50 teaches that all data is read out of the CCD and written to the buffer memory, and from Col 11 this means one field or after one field is captured to the CCD it is written to the buffer memory. After this readout the image data is read out from the memory according to a predetermined procedure. One of ordinary skill in the art realizes that predetermined procedures and operations of electronics is controlled by programmed timing control. Fig. 10 shows that after the buffer memory, reference number 46, the data is output to a monitor. Therefore Suzuki teaches timing control for output from the CCD to the memory of image data after every frame or field, and following this readout, output from the memory to the monitor.***

One of ordinary skill in the art will recognize that field versus frame mode has advantages based on varying output sensitivity; however Suzuki does not teach switching to the first or second mode based on output sensitivity. Okino teaches a similar image pickup apparatus with ability to switch between field and frame modes, and in *Col 4 Lines 56-68* teaches the field mode is selected when light quantity is insufficient, or high output sensitivity is needed, and the frame mode is selected when light is sufficient, or low out put sensitivity is needed. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Suzuki with that of Okino to realize the function of switching between field and frame modes

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depending on the requested output sensitivity based on the known relationship between high and low output sensitivities with respect to advantages in using field and frame modes, such as to optimize dynamic range.

Regarding Claim 2, Suzuki in view of Okino teach the image pick-up apparatus as set forth in claim 1, and Okino further teaches adjusting gain of the output of an image pick-up signal, wherein the control means controls the switching means so as to switch the image pick-up mode of the image pick-up apparatus into either the first mode or the second mode in accordance with the gain adjusted by the gain adjustment means *(Col 3 Lines 16-19 teaches adjusting gain for the signal in the signal processing circuit, reference number 6 in Fig. 1, which receives the outputted signal from the solid state image pick-up device, reference number 5, and Col 3 Lines 16-19 teach the control circuit performs changing of the sensitivity by adjusting the gain which accordingly determines which mode is selected based on the sensitivity as addressed with Claim 1).*

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Suzuki with that of Okino for the same reason as that stated in Claim 1. Gain is well known in the art to relate to output sensitivity and therefore changing gain which changes sensitivity will determine switching of the field or frame mode.

Regarding Claim 3, Suzuki in view of Okino teach the image pick-up apparatus as set forth in claim 1, and Okino further teaches the control means controls the switching means so as to switch the image pick-up mode of the image pick-up apparatus into either the first mode or the second mode in accordance with storage time of the charges stored in the solid-state image pick-up device. Fig. 3 Step S8 shows the point in the apparatus' operation where either the field pickup mode or the frame pickup mode is chosen, and this choice is made in accordance with, or depending on, the steps that precede step S8. At Step S4, the control circuit checks if there is sufficient light, if there is not sufficient light the flow moves to step S6 where a storage time,  $T_o$ , is passed before closing the shutter and determining sufficient light which leads to the choice between field and frame pickup mode. In this way, the control means controls the switching means to switch between field and frame pickup mode in accordance with the storage time since Fig. 3 depicts the choice in step S8 is in accordance with the preceding steps such as step S6 involving storage time. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Suzuki to automatically switch to the field or frame mode based on the storage time of the charges as taught by Okino because storage time is different for field and frame mode and choosing one over the other will be advantageous given storage time such as to perform faster.

Regarding Claim 7, Suzuki in view of Okino teach the image pick-up apparatus set forth in claim 1, further comprising an image processing means for processing the

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charges output from the solid-state image pick-up device during the first time period and for processing the charges output from the storage means during the second time period (*Fig. 1 reference numbers 7 and 10, image signal processing circuit and control part, process the charges from the image sensing device and the charges output from the storage means*).

Claims 4-6, 8 are method claims corresponding to claims 1-3, 7 and are therefore rejected similarly.

### **Conclusion**

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HSU whose telephone number is (571)270-3012. The examiner can normally be reached on M-F 8am-6pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amy Hsu  
Examiner  
Art Unit 2622

/NHAN T. TRAN/  
Primary Examiner, Art Unit 2622